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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 168

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SUB-SAHARAN AFRICA

WEST EUROPE

BRIEFS

USSR BUYING FINNISH CABLE MACHINERY--According to an agreement between the Soviet trade organization Techmashimport and Oy Nokia Ab [of Finland], this year Nokia will deliver cable machines with a value of over 41 million Finnmarkkas to the Soviet Union. The deliveries include five plastic insulation lines for telephone cables and two vulcanization lines for plastic insulated power cables. Both machine systems are computer guided. [Text] [Helsinki HUFVUDSTADSBLADET in Swedish 30 May 81 p 15]

CSO: 5500/2226

BRIEFS

FM RADIO IN NORTH--The Federal Communications Department has called applications for an FM radio station licence to serve the Townsville area. The Communications Minister, Mr Sinclair, also called for applications for licences to operate television translator stations to serve the Capella, Emerald, Clermont and Springsure areas. Details have been outlined in the Commonwealth Gazette of April 14. Mr Sinclair said an FM broadcasting licence would be granted for a Category C type public broadcasting station to serve Townsville and surrounding areas of the Thuringowa Shire. It would be the first FM licence in North Queensland. Category C means consortiums may be permitted but are not mandatory. It also means licences may be issued to bodies such as shire councils, schools or non-profit companies. The "promise of performance" may include educational or access programes. Applicants have been given the choice of Mount Stuart or Castle Hill as transmitter sites. Applications for both radio and television licences have to be lodged with the Australian Broadcasting Tribunal by 5 p.m. on May 5. Written submissions relating to the granting of licences will be received until 5 p.m. on May 19. [Text] [Brisbane THE COURIER-MAIL in English 23 Apr 81 p 1]

PROTEST OF SOVIET RADAR--Sydney.--Department of Communications will complain to the Soviet Union about radar interference on radio bands used by Australian radio operators. The decision is a significant victory for volunteer coastguard services and amateur radio operators who have lobbied the Federal Government about interference from the Soviet over-the-horizon radar. The groups have told the department that the OHR inteference--know as [as published] "the Russian woodpecker" because of its rapid clicking sound--could "blot out" distress signals over the 27 mHz marine safety radio band. In a letter to the department, Mr Jim Linton, the Melbourne organiser of the radio operator's campaign, said: "Large segments of the amateur radio bands and the 27 mHz marine bands are rendered unusable for communications at times by the Soviet OHR. The interference could prevent the reception of vital weather information by small craft and put human life in jeopardy," he said. [Text] [Melbourne THE AGE in English 11 May 81 p 5]

CSO: 5500/7535

INTEGRATED CIRCUIT, SOFTWARE PRODUCTION PROGRESS TOLD

Madras THE HINDU in English 19 May 81 p 10

[Text] New Delhi, May 18.

The production of large-scale integrated circuits (LSI) from the raw material stage by the State-owned Semi-conductor Complex Limited (SCL) at Chandigarh is expected to commence by October 1983 while their assembly would start at the end of this year.

The LSI circuits will meet the requirements of electronic watches and calculators, computer and digital products like memories, microprocessors and telecommunication applications including electronic exchanges. The main reason why it has not been possible to commence production of LSI circuits from the stage of wafer fabrication itself is the prolonged delivery periods involved in certain critical items of production equipment.

A technical collaboration agreement for the manufacture of contemporary LSI circuits has been signed by SCL with American Microsystems Incorporation of California.

Though under the earlier proposals SCL was to produce light-emitting diodes (LEDs), it has since decided to concentrate only on LSI semi-conductor circuits. This is because the technology of LEDs has diversified significantly from that of LSI's.

Other units including the Central Electronics Limited in the public sector and Hindustan Conductors Limited in the private sector are already producing LEDs and the State Industrial Development Corporation of Jammu and Kashmir has been licensed to produce 12 million LEDs. The technology used for the production of LEDs is indigenous and based on the laboratory scale know-how developed by the Bhaba Atomic Research Centre.

The SCL has also "initialled" a collaboration agreement with Hitachi of Japan for the manufacture of electronic modules of digital electronic watches for which the Government is expected to give its approval shortly.

Both SCL and Hindustan Machine Tools (HMT) have had detailed discussions with Hitachi on technical collaboration between SCL and the Japanese company regarding the manufacture of cases for digital electronic watches by HMT. As a result, a tripartite memorandum of understanding has been signed among SCL, HMT, Hitachi.

Software export: Exports of computer software are expected to earn about Rs. 10 crores in the next five years. Apart from this, the National Centre for Software Development and Computing Techniques (NCSDCT) of the Tata Institute of Fundamental Research (TIFR), Bombay, has developed software which has replaced imports to the tune of about Rs. 3.9 crores during the last four years.

The TIFR has also produced software for the army communication system, valued at about Rs. 2.3 crores.

Computer-based regional and State-level electric power monitoring and control systems are being set up under the auspices of the Central Electricity Authority (CEA). The value of these systems is Rs. 10 crores. Orders have been placed for these systems by the Government for the northern, eastern and western regional load despatching centres.

It is proposed to invest Rs. 15 crores on the expansion of these monitoring systems during 1981-85. By 1990, the electric monitoring and control systems for the country are targeted to have an electronic component valued at Rs. 75 crores to Rs. 100 crores.

To achieve this objective, the Radar Communication and Project Office (RCPO) of the Defence Ministry, TIFR and the Electronic Corporation of India, along with other agencies will be mounting a major programme for software generation initially for import substitution and later for exports.

CSO: 5500/7116

COMMUNICATIONS SATELLITE TO BE LAUNCHED

Karachi DAWN in English 4 Jun 81 p 8

[Text] Dr Salim Mehmood, Chairman, Pakistan Space and Upper Atmosphere Research Commission (Suparco) said in Karachi yesterday that a 10-year space programme was being launched to conduct extensive studies and research through a communication satellite of "our own."

Addressing a news conference, the newly-appointed Chairman of the Commission said that the satellite might be launched through another country, possibly with the help of NASA, to use it round-the-clock for our own requirements.

Dr Mehmood said Suparco would develop its own technology and know-how for manufacturing and launching of the satellites and at the same time it would set up a large number of receiving stations which would greatly help in improving all types communication systems.

He said all this would be possible now, because the present Government had upgraded its status from "Committee" to "Commission" with maximum autonomy. A Space Research Council has also been set up under an ordinance with the President as Chairman.

Dr Mehmood said that it was the first major development in the history of Suparco that its council had the Head of the State as its chairman with nine members--Ministers of Finance, Foreign Affairs, Communication Adviser on Science and Technology, Deputy Chairman, Planning Commission; Cabinet Secretary, Chairman of Suparco, and scientific engineers to be nominated by the President.

A six-member Executive Committee has also been appointed which will have the Minister for Finance, Adviser on Science and Technology, Cabinet Secretary, Chairman of Suparco, one scientist and one engineer to be nominated by the President.

The new Commission will have five members including the Chairman and will perform day to day work.

Space Technology

Dr Mehmood said Pakistan is the first Muslim country to have made such progress in the space technology.

He said that Suparco would be concentrating on establishing ground stations to receive signals from various types of satellites which are already available to Pakistan.

Since its formation in 1961, Suparco has launched 150 rockets to perform scientific experiments on an altitude range as low as 20 km to as high as 400 km which is considered deep space, as there is practically no atmosphere at such extreme heights.

A number of these rocket experiments were performed in collaboration with Suparco's counterpart foreign agencies such as NASA, CNES and NSRC.

Dr Mehmood said that the main thrust of Suparco's scientific programme is on applying space science and technology and its spin-off benefits in the areas of communications, resource management, study of natural and physical phenomena at high altitudes, prediction of optimum frequencies for high frequency radio communications and related ionospheric research.

He said to introduce its facilities and capabilities for the prediction of optimum frequencies, Suparco has organised meetings of the representatives of all such organisations, and consequently Pakistan Broadcasting Corporation has requested to work out optimum frequencies for 22 radio circuits. The existing facilities at Space Research Centre are being augmented so that the services for the nation user organisations in this area are further improved.

Studies

Currently many studies are in progress for improving the knowledge about the inosphere as well as for finding out seasonal and annual variations in atmospheric conditions.

To help these working in geology, hydrology, water resources, agriculture, aforestation and surveying, the Suparco is having yet another remote sensing applications centre (RESACENT).

The pictures received through such satellites have already been put to use for multi-disciplinary studies, he said.

The Chairman said that from the very beginning of the remote sensing technology, the scientists at RESACENT have been working in the reduction, interpretation and analysis of satellite remote sensing data for various applications concerning earth resources.

Under various cooperative arrangements, he said, the RESACENT acquires the satellite data of Pakistan from NASA which are achieved and catalogued. As a part of mutual collaboration in space research between SUPARCO and NASA, a temporary satellite ground receiving station was also set up near Rawalpindi in 1976 which provided extensive coverage of Pakistan for a period of 12 months on repetitive basis.

Dr Salim Mehmood said that the RESACENT also makes available to national user agencies the satellite data as well as the analysis and interpretation services. There are already 41 national agencies making use of satellite pictures, interpretation equipment and services provided by RESACENT.

Some of the users are Pakistan Agriculture Research Council, PAEC, Geological Survey of Pakistan, OGDC, Sui Gas Transmission Company, Soil Survey of Pakistan, WAPDA and geography departments of all universities.

Currently the RESACENT is engaged in the works relating to agricultural studies comprising indentification, acreage and yield estimation of major crops of Pakistan particularly wheat crop; land use and environmental studies; and snow survey of the catchment areas of Indus Basin rivers for estimation of snow-melt runoff.

Suparco plant has complete facilities including sophisticated machinery for fabrication of all the rocket components and rocket fuel. The plant supplies rockets to meet the requirements of scientists for performing scientific experiments at high altitudes.

It has also set up up-to-date Instrumentation Laboratories which have latest type of equipment and highly qualified scientists and engineers to meet the demands of electronic and other instrumentation required in connection with rocket and satellite experimentation.

Dr Salim Mehmood said that at the 34th session of a UN conference, the moon was declared a "common heritage of mankind," because only the super-powers have the access to that planet. A draft on the Treaty of Moon which governs the use of moon was not agreed upon unanimously and therefore it was declared a common heritage of mankind.

Suparco, he said, is collaborating with the University of Karachi in the teaching programme of space physics at M.Sc level.

CSO: 5500/4580

COBRA GIVEN LOAN, POLITICAL SUPPORT

Thought Profitable by 1982

Rio de Janeiro JORNAL DO BRASIL in Portuguese 16 Apr 81 p 17

[Text] In announcing in Rio the government's release of a foreign loan of $20 million (about 1.6 billion cruzeiros) to alleviate the difficulties being experienced by COBRA [Brazilian Computers and Systems, Inc.], its president, Vicente Paolillo, said it can be made profitable by March 1982 if, simultaneously, the capital increases from its current level of 500 million cruzeiros to 2.5 billion.

Despite a loss of 600 million cruzeiros in the last fiscal period, the firm retained its 2,000 employees. With this loan--released by the Bank of Brazil through Resolution No 63--Paolillo thinks it possible to maintain the same management policy without any cut in the number of employees or any change in the products planned and allocating 10 to 12 percent of the total invoice amount to research and development.

Negotiations Are Continuing

Paolillo denies that denationalizing the firm is at stake but admits that negotiations are continuing between the partners (basically the government, with 57 percent, and a holding company of 11 banks and the Rio and Sao Paulo stock exchanges, with 39 percent) to make it possible to increase the capital.

He does not confirm that discussions are centered about the 17 percent participation of SERPRO [Federal Data Processing Service] and DIGIBRAS but considers it "devastating" that the two state firms lack funds to maintain their share. In revealing that the government has already allocated 1.065 billion cruzeiros to increase the capital and that 2 billion cruzeiros will be required to reach the desired level, he says it is obvious that state participation (57 percent) will drop if SERPRO and DIGIBRAS do not maintain their share positions.

Paolillo said that it would be normal for the negotiations between the partners to result in agreement before the meeting is held--within a week or two--to decide on the capital increase. He declined to disclose anything about the conversations, saying that he did not have access to them. He also declined to comment on the hypothesis that the loan--which depends on the commitment of the BNDE [National Economic Development Bank] and the Federal Savings Bank (like the Bank of Brazil,

a COBRA partner) and has a payback period of 8 years with 3 years of grace--will make the firm more attractive to those possibly interested in its control. And he expressed astonishment at the emphasis given to COBRA's problems, observing that "the entire domestic data processing sector is having difficulties."

He pointed out that COBRA had a loss of 6 billion cruzeiros in 1980--which amounts to almost 84 of income for each dollar now on loan--had billings of over 1 billion cruzeiros in March of this year and has orders on the books amounting to 2.1 billion cruzeiros, which assures 3 months of operation.

In addition, he disclosed that the company will put the COBRA 540 on the market this year, a medium-range computer with twice the capacity of the COBRA 500 and manufactured with national technology, thus increasing the so-called market reserve initially devoted to minicomputers only.

In Brasilia it was announced that Paolillo will return to that city next Wednesday to continue negotiations aimed at revamping his investment strategy in the data processing market. Yesterday, he delivered a document to Carlos Viacava, secretary general of the Ministry of Treasury, outlining his position concerning the future role of COBRA and defending the expansion of its activities in the area of specialized second-generation computers and computer equipment for the aeronautics industry.

The document presented by Paolillo will also be analyzed by the ministries of planning and of industry and commerce and by the secretary of the National Security Council. In addition to Viacava and Paolillo, Oswaldo Colin, president of the Bank of Brazil, also attended yesterday's meeting.

COBRA Unites Government, Opposition

Rio de Janeiro O GLOBO in Portuguese 3 May 81 p 30

[Text] "The news about the present difficulties of Brazilian Computers and Systems, Inc.(COBRA) has achieved an unheard-of result in our country: it has reunited all the opposition parties and the government in defense of the technological accomplishments made through the implementation of the market reserve policy in the computer industry."

This comment was made by Ricardo Saur, director superintendent of EDISA [Digital Electronics, Inc]--a private domestic firm which manufactures minicomputers--concerning discussions held in Rio de Janeiro's Senate and Legislative Assembly to denounce an attempt to declare the market reserve principle unfeasible and dwell on COBRA's losses last year.

Crisis Declared False

Ricardo Saur, former executive secretary of the Electronic Data Processing Coordination Committee (CAPRE), believes that the alleged crisis among minicomputer manufacturers is "absolutely false and counterfeit," even though it has influenced the behavior of the market which, in recent weeks, has been more reserved.

In the opinion of computer sector experts, COBRA's financial difficulties have nothing to do with its operational results. In fact, the firm's latest product--the COBRA 530 (medium-range computer)--with 100 percent domestic technology, has been commercially successful from the moment it was put on market the year before last.

According to engineer Jose P. Martinez, COBRA--the company responsible for about 40 percent of Brazil's minicomputer sales--showed a loss of 600 million cruzeiros for the fiscal period ending 31 March 1981. In his opinion, this result is not exaggerated when it is considered that, during the same period, COBRA had sales amounting to 5.5 billion cruzeiros.

Other private domestic firms in this sector had a very similar experience. SID (Timesharing Systems, Inc)--of the Sharp and BRADESCO [Brazilian Discount Bank] groups--had a loss of 600 million cruzeiros during the same period with a sales volume of about 2.7 billion cruzeiros. EDISA--controlled by the IOCHPE group and the Rio Grande do Sul Government--showed a loss of 52 million cruzeiros. SISCO--of the Henry Macksound group--also finished the fiscal period in the red. The only exception was Labo Electronica--a firm belonging to the FORSA group--which showed a small profit during that period.

Positive Results

In the opinion of Sergio Rosa, president of the Data Processing Professional Association of Rio de Janeiro (APPD/RJ), the market reserve policy must be evaluated on the basis of broader criteria.

Sergio Rosa emphasizes that the first order of priority is to increase the participation of domestic minicomputer firms in the total number of machines installed in the country. In 1978, when steps were first taken to protect the domestic minicomputer industry, there was a total of 47 domestic minicomputers installed in Brazil, representing 1 percent of the total existing machines of that type. The share of domestic minicomputers in the total number of computers installed (of all sizes) was almost zero.

Two years later, thanks to the domestic industry protection policy and according to information released by the Special Computer Secretariat (SEI), domestic firms were supplying 78 percent of all the minicomputers installed in the country (in absolute figures, 1,315 machines). The share of domestic minicomputers in the total of all computers installed in the country rose from almost zero to 16.9 percent during that period. To illustrate COBRA's importance in altering the profile of the domestic market, Sergio Rosa said that, of the 1,315 domestic minicomputers, about 918 were supplied by that firm.

"Therefore," Sergio Rosa observed, "the market reserve policy has not failed; quite the contrary."

The APPD/RJ president, who is initiating the Second Seminar on Domestic Data Processing Policy tomorrow in conjunction with the Engineering Club, said that the domestic firms also considerably increased the job market for Brazilian skilled workers. Domestic manufacturers now employ 5,700 skilled workers compared with 7,500 employed by foreign companies. COBRA employs 2,000 of the 5,700 employees.

Sergio Rosa said that the protection of domestic industry has therefore become a matter of principle for data processing personnel, since it is now a matter of protecting their own jobs.

Technological Progress

In the opinion of Ricardo Saur, former executive secretary of CAPRE, the major achievement of the country's market reserve policy is one of strategic progress in the technological sphere. According to him, this development is best illustrated by the expansion of the microelectronic industry resulting from a strengthening of the domestic minicomputer industry.

In this connection, Ricardo Saur criticized the conjecture of the special committee, subordinate to the National Security Council, which preceded the establishment of the SEI. That committee had claimed that it was a mistake to install domestic computer factories before having domestic suppliers of peripheral equipment and electronic components, "upsetting the entire process."

The CAPRE former executive secretary stated:

"It is impossible to set up a domestic microelectronic industry to supply parts to foreign companies which already have their own plants for manufacturing components and peripheral equipment.

"Such an arrangement must be initiated through the establishment of a structure for the use and production of minicomputers in order subsequently, to be able to manufacture their components and peripheral equipment with a market already assured."

In this regard, Ricardo Saur advised that by the end of May, EDISA will launch a new minicomputer model based on its own design, that is, 100 percent domestic.

In his opinion, the operating costs of domestic firms are high, especially if compared with the multinational competitors, for the following reasons: 1) the lack of a clear understanding by government organizations, principally the SEI, which committed an error in judgment in authorizing the manufacture of IBM's Model 4331 (large-range) last year, incurring the first backward step taken by the market reserve policy in the last 5 years; 2) a heavy tax structure (import tax, IPI [finished goods tax] and ICM [tax on movement of merchandise]; 3) the absence of any incentive for investments in technology, a problem which was aggravated by an interruption in the financing policy of the Funding Authority for Studies and Projects (FINEP); and 4) a reduction in the production level due to the recent market recession.

Backward Step Taken by Government

In the opinion of Moacyr Fioravante, former president of SERPRO, one of the centers of technological development which exercised considerable influence when the domestic industrialization structure was first set up, the "mere intention to denationalize COBRA signifies a backward step taken by the government in terms of investments in the sector, and this could discourage private initiative in other business ventures."

According to him, the change in policy involving the denationalization of the sector's only government enterprise which showed positive results should not have been announced or made effective before creating an alternative mechanism which would prove to be equally competent.

In this connection, Moacyr Fioravante posed the questions: "Of what alternative mechanism is the government thinking? In what enterprise will the government invest? Who will be responsible for continuing the technological development initiated by COBRA?"

In Moacyr Fioravante's opinion, the results obtained through the market reserve policy are indisputable. First, it facilitated the establishment of a completely domestic industry in specific sectors. Second, it gave the government a decisive instrument to formulate and carry out a domestic data processing policy.

"In the absence of market reserve," he commented in a paper prepared for the Second Seminar on Domestic Data Processing Policy, "adopted in 1976, it is probable that the present domestic data processing policy would be further limited to the timid controls applicable to the purchase of equipment. We would be impassively witnessing a change in the historic trend of our computer imports which, by 1980, would have reached the figure of $400 million."

According to Moacyr Fioravante, if the country had not adopted the market reserve plan, "IBM's marketing policy would be our data processing policy, determining the choice of applications, equipment and even the training of our data processing skilled personnel."

Billings of Almost $5 Billion

Total invoicing in the mini- and microcomputer industries throughout the world came to $4.7 billion in 1979. The annual growth rate of billings in the minicomputer sector varies between 30 and 35 percent, while in the so-called large-range systems (large-scale computers) it is only about 15 percent.

The basic definition of micro- and minicomputers is fundamentally limited to price. According to the convention on data processing held annually in Paris and attended by users, manufacturers and service companies, the prices of microcomputers vary from $4,000 to $40,000, whereas the prices of minicomputers begin at $40,000.

IBM's total invoicing in the minicomputer sector came to $200 million in 1979. The biggest firm in the minicomputer sector--Digital Equipment (DEC)--had invoices totaling $2 billion in the same year. Hewlett-Packard had billings of $750 million. In France, Logabax Intertechnique reached $190 million and Sems, $160 million. In the same period, COBRA had billings totaling $51 million.

Specialists consider this market the "filet mignon" of the future in view of the high growth rate of its billings.

In the total market for computers of all sizes, IBM heads the list of firms which had the highest turnover in 1979. Its billings reached $22.5 billion, an increase of 8.5 percent over the previous year. Then come Sperry Rand with $4.6 billion, Honeywell with $4.2 billion, NCR with $3 billion, Burroughs with $2.8 billion and Control Data with $2.3 billion.

Distribution of Number of Computers Installed in Brazil
by Country of Origin (%)
(8,844 computers installed)

Key:

1. United States--50.9 percent
2. Italy--25.8 percent
3. Brazil--16.9 percent
4. Others--6.4 percent

8568
CSO: 5500/2205

BRIEFS

DOMESTIC SATELLITE BY 1986--Sao Paulo--Communications M..ister Haroldo Correa de Mattos said yesterday that the country will install its own domestic communications satellite system within 5 years, with investments of a little more than $70 million. "We cannot again miss out on the historical trend or we will run the risk of being forever a developing country," the minister asserted at a luncheon given by the Association of Computer and Peripheral Systems Users (SUCESU). "Is it worth the trouble to make this investment?" Haroldo de Mattos asked. "The answer is affirmative from all angles," he said. The cost of installing a domestic satellite is advantageous when compared to the cost of leasing an international satellite, according to the minister. If it were leased from 1985 to 1995, the country would pay out the equivalent of $170 million at today's currency values; and, even then, there would be certain disadvantages. The domestic satellite itself, because of its more convenient location, will require less expensive and less sophisticated landbased stations than those required by the INTELSAT [International Telecommunications Satellite Organization] system. The investments required to install the satellite will come wholly from foreign banks, at 11 percent annual interest, a 7-year amortization period and 3 years of grace. In his speech, Haroldo Correa de Mattos stressed that these expenditures are urgent considering the expediency of launching the satellite. [Text] [Rio de Janeiro O GLOBO in Portuguese 24 Apr 81 p 18] 8658

CSO: 3500/2205

BRIEFS

RADIO COOPERATION WITH ZIMBABWE--The Botswana Telecommunications Corporation is presently engaged in plans to establish a microwave radio link between the eastern Botswana town of Francistown and Zimbabwe's second largest city of Bulawayo. When fully commissioned the joint Zimbabwe-Botswana venture will complete the southern sector of the pan-African communications network. Meanwhile, a Botswanan government official has announced that a sub-regional conference on telecommunications, to be attended by delegates from 15 African countries and nine international organizations, will be held in the Botswana capital of Gaborone in August and September this year. [Text] [LD020949 Johannesburg International Service in English 2100 GMT 1 Jun 81 LD]

CSO: 5500/5028

FATE OF BALLOON COMMUNICATIONS PROJECT SAIL UNKNOWN

Kaduna NEW NIGERIAN in English 22 Apr 81 pp 1, 5

[Article by Sani Maruma and Yinka Kwesi Guedon]

[Text] It is still not certain whether or not the Federal Government will continue with the establishment of the controversial Aerostat Balloon Project for television transmission.

The 153 million Naira project was started about four years ago and the Federal Government had already spent more than 100 million Naira on it, but the contractors handling the project have abandoned it for over a year now.

When the NN visited the site of the project near Gujba in Borno State recently, no work whatsoever was going on. An American engineer at the site whose company is handling the main job, refused to comment on the progress of the project. He, however, said the contractors handing the civil works (not his company) abandoned their part of the work and his company could not install the gadgets without the civil contractors completing their work.

He said the majority of the balloon equipment had already arrived in the country from the United States, adding that the few that had not arrived would be shipped when the work was about to be completed.

The Ministry of Communications and the Nigerian Television Authority (NTA) have denied ownership of the project. When the Presidential Adviser on Information, Chief Olu Adebanjo, appeared before the House of Representatives Committee on Communications, he said the NTA should not be blamed for the failure of the project.

He also told the committee that the project was not initiated by the NTA and the Ministry of Communciations. On the other hand, he told the committee that the project was for the NTA.

At a press conference in Maiduguri on Tuesday last week, the Minister of Communications, Mr Isaac Shaahu, said the project was designed for television transmission which could carry up to six channels at the same time.

He said his ministry had asked for five million Naira to continue with the project, bu the House of Representatives directed that the amount should be used for the establishment of more post offices.

The minister said he had been asked by the president to make a general submission on the project, giving reasons for and against it and thereafter professionals would give their advise before the president took a decision on the fate of the project.

Contacted in Lagos yesterday, the Minister of State for Communications, Chief Eteng Okoi-Obuli told the NEW NIGERIAN that the ministry's general submission on the project was not yet ready.

He said a committee headed by the General Manager of NTA, mr Vincent Maduka, was set to consider the desirability or otherwise of the project.

The minister of state disclosed that he contacted the committee last week but was told its report was not yet ready.

The minister of communications would submit a report to the president on the project after considering the committee's report.

The aerostat balloon system when completed would enable viewers to watch television programmes from other states on two or more channels. The system is said to have never been used in any country for television transmission and even the Americans who came up with the idea have not used it in the manner intended in this country.

CSO: 4400/5030

BRIEFS

CAPITAL RADIO SIGNAL IMPROVEMENT--Capital Radio, the Transkei-based independent station, is now able to put into operation a series of long term projects following its takeover by the Transkei Government in March. The station's general manager, Mr Phil Lovemore, says the funds raised from the takeover will enable the station to deliver a nationwide independent radio station to the public. The first phase of the planned expansion is to transmit a much-improved signal to Durban by means of a new transmitter. Mr. Lovemore said that this phase was "up and running," but was being thoroughly tested first due to the bad publicity 16 months ago. The transmitter will be in operation within a month. The second phase includes an improved signal to the Natal South Coast and a good transmission to Cape Town. Attention will also be given to the Witwatersrand area. Mr Lovemore said the takeover wouldn't affect the programming. The Transkeian Government "has never interfered with the daily running of the station in the past." [Excerpt] [Johannesburg THE CITIZEN in English 2 May 81 p 5]

TV TEST TRANSMISSIONS--Low voltage TV transmitters, which are linked to the installation of TV 2 and 3 station, have been installed in the Johannesburg and Pretoria transmission stations. Technical test patterns are being transmitted on the following channels: Johannesburg Channel 9 horizontally polarised (horizontal aerial) and Pretoria Channel 8 with a vertical polarisation. [Text] [Johannesburg THE CITIZEN in English 21 May 81 p 5]

CSO: 5500/5026

BRIEFS

SBS INTERFERENCE WITH RECEPTION--The Director of the Swaziland Broadcasting Service, Mr JB Vilakati, has extended his apology to those members of the public who are presently finding some difficulties in tuning to certain foreign radio stations. Mr Vilakati explained to the Times that this was due to some tests of new transmission masts at SBS as a result of which it has become increasingly difficult to receive certain radio stations. Instead they receive SBS each time they try to tune to these stations. He has assured the public that this problem was temporary and should be overcome as soon as the tests have been completed. Among the foreign radio stations whose reception has been affected by the tests are: Springbok Radio, Radio Five and Radio Bantu and Radio South Africa. At certain times of the day, the reception of these stations are virtually cut off in Swaziland, particularly around Mbabane. Where they are not cut off completely, the reception is not very clear as SBS is heard in the background. This is particularly the case in the FM Metre Band which is now completely dominated by SBS. Some listeners have been worried that this was deliberately done so that everybody could tune to SBS. [Text] [Mbabane THE TIMES OF SWAZILAND in English 3 Jun 81 p 1]

CSO: 5500/5031

BRIEFS

ZIANA TO CUT TIES TO SAPA--The takeover of Ziana from Sapa by the Mass Media Trust from July 1 will mean that Zimbabwe will no longer have news "doctored" in South Africa, the Minister of Information, Dr Nathan Shamuyarira, said in Salisbury last night. Speaking at a reception to celebrate the launching of a new advertising agency in Salisbury, the Minister urged advertising agencies in the country to sever their links with South Africa "because their future is to the north". Although the news agency changed its name from Iana to Ziana last year, it is presently being run by Sapa and on July 1, Sapa will hand over its shares to the Mass Media Trust. The Minister said the agency would have correspondents in every province and will give the people full coverage of what is happening in the country. He appealed to advertising agencies in the country to stop using advertisements that smacked of racism. He had no intention of censoring any of the material used by the agencies and hoped that they would exercise self-restraint in selecting and tailoring their advertisements to the new socio-economic order and respect other Zimbabweans. He said the agencies had a bright future to look forward to and added that events during the past 15 months had shown the way the economy and prosperity of the country was going. Dr Shamuyarira urged them to shun "pornographic" material and to turn their attention to the "green revolution" that was taking place in the rural areas, "because it is there that your future markets are going to be". [Text] [Salisbury THE HERALD in English 28 May 81 p 1]

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NORWAY, DENMARK OFFERED SHARE IN SWEDISH SATELLITE

Stockholm SVENSKA DAGBLADET in Swedish 5 May 81 p 9

[Article by Bjorn F. Hansen: "Data Transmission and Television Channels; All Nordic Countries Offered Share in New Swedish Satellite"]

[Text] "The Swedish satellite can become a new resource in the field of data for all the Nordic countries, if the neighboring countries are interested in participating."

These are the words of director Fredrik Engstrom, Swedish Space Inc. The subject is Tele-X, the all-Swedish experimental communications satellite, which has no connection with Nordsat. It is primarily intended for data transmission and atmospheric measurements, among other things, but it will also be equipped with two, perhaps three television channels.

"My evaluation is that there is interest in Finland in participating both in building and using the services of the satellite," Fredrik Engstrom says. We will now negotiate with Norway and Denmark as well.

Speeding Up

On the Swedish side the negotiations with potential participants are being speeded up.

"If it turns out that our neighboring countries do not want to participate, we will turn to other nations. In August-September we must be finished with this part of the preparations," says the head of the space company.

Negotiations with potential participants must not take any longer than that if the timetable is to be adhered to. Tele-X is a task given the space company by the state delegation for space activity, and according to the timetable the satellite is to be launched in the spring of 1986.

This means that Sweden will have a communications satellite in space only 1 year after West Germany. Officially, it has been said up to now that the West German satellite will be launched in 1984, but experts today do not believe that it can be done until 1985.

Must Pay

Participating countries will have to pay for the privilege; Tele-X will not be free.

On the part of the Swedes it is thus expected that contributions toward financing will be received through outside rentals, but the project does not stand and fall with the magnitude of these rentals. The costs are contained within the framework indicated when Industry Minister Nils G. Asling ordered the Tele-X in order -- primarily -- to make it possible for Swedish industries to acquire competitive strength in the international market.

The preparations are undertaken by three partners -- the Telecommunications Agency, Radio Sweden and the Space Company -- which work under the leadership of a steering group. In late summer everything is to be ready with regard to the participants and their wishes, and some time during the first 6 months of 1982 drafts of a "tailor-made" Tele-X will be ready to be reported on.

Then it will take about 3 years to build. Fifty percent of the work will be done by domestic industries. The remaining 50 percent will be ordered from industries in other countries.

Who will be the owner of Tele-X?

"Today the state is the owner, but as soon as the satellite is in the air, it will be taken over by the Telecommunications Agency. As for the television channels, we regard Radio Sweden as the natural partner," Fredrik Engstrom says.

11949
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MILITARY'S USE OF TELECOMMUNICATIONS SATELLITES

Paris DEFENSE NATIONALE in French May 81 pp 156-161

[Article by Gerard Vaillant: "The Military and the Use of Satellites"]

[Excerpts] During the 1970's, there were two competing schools of thought within the Ministry of Defense concerning the use of satellites: some people--the transmitters--felt that a telecommunications satellite was indispensable to the military in order to insure communications with naval ships and our overseas forces; others, aware of the need to protect and maintain the efficiency of our nuclear forces for their possible use, were hoping that the military would be given a reconnaissance and observation satellite.

Obliged, because of budget considerations, to make a choice between these two schools, which are equally sound, the minister--at that time Yvon Bourges--seem to be giving priority to the observation satellite. That was how funds came to be included in the Defense budget to allow participation in a civilian program, the trial earth reconnaissance satellite, SPOT (Earth Observation Probe System), which CNES [National Center for Space Studies] is to launch in 1984.[1] Military participation in SPOT will be a first step toward satisfying certain needs, at the same time providing experience which will be useful later in developing the SAMRO military reconnaissance and observation satellite, which is now only in the planning stage,[2] and whose total cost will be much higher than that of a telecommunications satellite.

The plans for a telecommunications satellite were however not abandoned. Thanks to the Center for Electronic Weapons (CELAR), an advanced Hertz wave technique useful to its development and known on the other side of the Atlantic by the term SSMA (Spread Spectrum Multiple Access) was perfected and an experimental station called SEXTIUS was built to maintain contact with the satellites. Meanwhile, around 1978 the military learned of the existence of a civilian telecommunications satellite project called TELECOM. A little later the Kolwezi affair demonstrated to the government how useful it was to possess, under such circumstances, a military telecommunications system which would allow such an action to be conducted independently. Thus it was decided in the rush to develop the TELECOM 1 satellite, to be launched in the summer of 1983, to have the military participate: that is the purpose of the SYRACUSE (Satellite Radiocommunications System) program, which was decided upon by Yvon Bourges on 17 January 1980.

The SYRACUSE Program

TELECOM 1, the civilian satellite on which the military program SYRACUS will be based, will be, like most satellites of its kind, a geostationary one, accompanying the movement of the earth in an equatorial orbit at an altitude of 36,000 km. This orbit is already very crowded by satellites launched by the Americans or the Soviets; we must find a place at that altitude without delay if we want to be able to cover efficiently, without interference from its neighbors, Europe, Africa, the Atlantic as far as the Caribbean and Guyana, the Indian Ocean, from Reunion in the south to be the Straits of Hormuz in the north. Therefore, it is planned to launch two TELECOM 1's which will be placed in orbit above the Gulf of Guinea at 7 degrees and at 10 degrees west. To the east of the zero degree meridian, the orbit is certainly less crowded, but we could no longer cover the Caribbean. Of the two satellites which will be launched, only one will begin operating in October 1983, the second being kept ready to serve as a replacement in case the first fails. A third is planned to be ready on the ground in case the first two launches fail. The satellites have a life of 7 years.

The military have of course contributed Fr 50 million to the financing of the initial investment in the satellite program; the rest is to be covered by the yearly fees of approximately Fr 45 million, which is the equivalent of one-sixth of the total expenses; they will also use one-sixth of the satellite's capacity. The MATRA company will act as principal contractor for the constructon of the satellites, with the platform being built by MATRA and British Aerospace. It will have as a sub-contractor Thomson-CSF, which will construct its payload, with Ford Aerospace being itself the sub-contractor for Thomson-CSF for constructing the military payload. The choice of Ford-Aerospace was dictated by the short time span for production, but the American firm will use French-designed tubes. Other participants in the program are SNIAS [National Industrial Aerospace Company], ETCA [Technical Studies and Aerospace Construction Company], SAAB [Swedish Airplane Company], Hughes, GTE [expansion unknown], etc. The SYRACUSE program will use the AMRC-spread spectrum multiple access--developed by French engineers and based on the same principle as the SSMA mentioned above. This type of emission, which we will be the first to use with NATO, offers great advantages from the military point of view: it is very difficult to intercept and jam them and it is impossible to interfere with the communication except by destroying the satellite, which would mean an identifiable hostile act and which could lead to serious consequences. Communications are maintained by radio or telegraph. They are all in code. Thanks to the two military repeaters installed on the satellite, 60 communications can be exchanged simultaneously on frequencies from 7.250 to 8.4 Ghs.

The SYRACUSE program involves not only the military elements incorporated in TELECOM 1, but also the military stations to be created both on land and on ships.

There are four types:

--fixed land stations,

--naval stations,

--transportable stations,

--light intervention stations.

Three fixed land stations will be set up, in the Paris region, in Brest and in the south of France. Equipped with large antennas (8 meters in diameter), these stations will be synchronized almost perfectly.

It is planned to install about 10 naval stations on navy ships as large or larger than corvettes. Equipped with antennas 1.5 meters in diameter and other equipment contained in a shelter, they can be moved from one ship to another according to need and availability of ships. They will be relayed by fixed stations in France or by stations installed on OMIT (the interservice military organization for transmissions) sites in Martinique, Dakar, Djibouti and Reunion.

Nine heavy transportable stations are planned: in addition to the four OMIT stations already mentioned, five others will be at the disposal of the general staff of the armed forces for communication with the First Army as well as for governmental communications. These stations can be transported by air in two Transalls. On land, they can be loaded on trucks.

The three light stations to be assigned to overseas forces can each be air transported with their vehicles in a single Transall. The listing of these types of stations is sufficient to indicate what their missions will be.

The funding for the entire SYRACUSE program, estimated at Fr 1 billion will be provided by the General Delegation for Arms [DGA] and the army and navy general staffs.

It is also the DGA which has a main role in the management of the program, with its subordinate departments, the SCTI (Central Service for Telecommunications and Data Processing), CELAR (Center for Electronic Weapons), STCAN (Technical Service for Construction and Naval Weapons) and STTE (Technical Service for Telecommunications and Aeronautical Equipment).

The officers of the EMA [general staffs of the armed services] and of the three branches of service--in particular the navy--are working very actively on the operational aspects within the SYRACUSE operational group, which belongs to the structure of the program. All of them, civilian or military engineers, as well as manufacturers, are doing their utmost to develop, as soon as possible, a program which had a rather catastrophic beginning, in order to catch up with the TELECOM 1 program. Without the earlier studies and experiments already carried out, in particular with the SEXTIUS station under the direction of the DGA, which has the responsibility today for the SYRACUSE program, never would the armed forces have hoped to make the rendezvous in 1983.

The SPOT Program and the SAMRO Project

As for SPOT, the trial earth observation satellite, which is to be launched by the CNES in 1984 and which will serve as a testing ground for the military, it will use certain equipment for the future military satellite. Its purpose is first of all to furnish information on land resources of interest to such organizations as the Bureau of Geological and Mining Research, the National Center for the Study and Exploitation of the Oceans, the National Center for Scientific Research, the General Delegation for Scientific and Technical Research and the Ministry of Agriculture. The size of its sampling, that is, the size of the squares of land

covered in succession by its observations, will be 20 meters by 20 meters in color and 10 by 10 meters in panchromatic black and white.

The SAMRO project concerns a specifically military satellite. Its capacity, in particular its power of resolution, will be greater than that of SPOT, although it is not equal to those of the American and Soviet military satellites. Above all, with respect to SPOT, its rate of image transmission will be much higher and its transmissions will be protected against jamming and interception. It is even planned to provide protection against laser weapons and that is why the data concerning its orbit and its characteristics must be kept secret, as well as the size of its sampling and its power of resolution. All that can be stated is that its orbit will be at a middle range altitude, higher than the American Big Bird and lower than that of SPOT. The images stored in its will be transmitted electronically and numbered as the satellite passes over the earth station for transmitting and receiving near the center which will use the images. It will be a strategic reconnaissance satellite which will give the military objective information on the infrastructure of the countries it will fly over, furnishing periodic observation of military complexes, ports, airfields, railroad systems, roads and rivers. SAMRO will furnish a body of information which will be very useful to objective knowledge of the strategic potential of the countries observed.

The observation of this infrastructure and the periodic comparison of the activities taking place within it can also be very valuable and provide indications of preparations, information which will prepare our military for any surprise. But this system will not generally be able to provide the necessary information for commanding troops and carrying out tactical operations. These will depend on information provided by aerial reconnaissance.

At present, SAMRO is still in the planning stage. At the earliest, the decision to develop it will be made in 1982. It would then appear in the law for planning, following that of 1977-1982. Once that decision is made, it will take 4 years to complete the project; completion can be anticipated by the end of 1986. The decision cannot be delayed too long, without the risk that industry will be unable to avoid the dispersion of the teams of engineers working on the projects right now.

The general staffs of the armed services have the responsibility for operational studies while the DTEn (The Technical Direction of Missile Development), under the DGA, is the guiding technical body. The CNES is also concerned because it has the technical responsibility for the satellite.

On the industrial side, it is essential Aerospatiale and MATRA which will have the responsibility for the preliminary studies for the satellite's design, Aerospatiale having the overall responsibility for satellite studies and ground installations for the DTEn.

The ground installations include the operation center, the control center, the earth station for transmitting and receiving and the center for the exploitation of the images.

The other industrial firms associated with these various studies are Thomson-CSF, SEP [European Propellant Company], SAT [Telecommunications Company Ltd.].

NAVSTAR will provide two levels of data information according to the categories of the users:

--A first level, available to everyone with the same level of precision as that of the TRANSIT system;

--a second level of precision--the one mentioned above--will be available only with a key.

The question then arises of deciding whether France must reach this second level and under what conditions. Opinion on this subject within the military is divided. Some fear that the conditions imposed will mortgage our independence. For the moment, GPS [expansion unknown] protocol in no way hinders it.

In a general way, all these projects and program manifest the vitality of our defense and our will to maintain it compatible with the progress which is being made in the domain of space, a domain in which France must hold its place.

FOOTNOTES

1. Fr 60 million were allocated by Defense to this program until 1980 and Fr 84 million are allocated in the 1981 budget.

2. Fr 236 million had been allocated until 1980 to studies for SAMEO and Fr 136 million are allocated in the 1981 budget.

8956
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PRIVATE FM BROADCASTERS AWAIT NEW GOVERNMENT'S RULINGS

Paris LE NOUVEL ECONOMISTE in French 25 May 81 p 64

[Article by Olivier Drouin: "The War of the Waves"]

[Text] The battle against monopoly is over and the war of the waves is beginning. Now that we are taking great strides toward a liberation of the frequency modulation band, there is frenzied activity among the pirates of the megahertz. Each wants to hold on to his place on the waves but--since nobody as yet knows very precisely in what framework and according to what criteria the lifting of restrictions will be accomplished--the battle is being joined amid confusion.

While the socialists would like to hold on to the technical broadcasting monopoly held by TdF (Telecasting of France), which since January 1980 has been under the secretariat of state for PTT [Post Office, Telegraph, and Telephone], they are on the other hand in favor of terminating the programming monopoly. "The important thing will be to authorize the establishment of local radio stations," indicated Mr Georges Fillioud, deputy for La Drome, last week; he is in charge of audiovisual operations in the socialist delegation in the National Assembly. A bill on national radio-television was to be introduced at the start of the next legislature.

There is a risk that we might be following the Italian example. "We do not want a confused proliferation," said Mr Fillioud. "The local channels will be made subject to authorization to be issued according to certain criteria." What we thus have is "liberty under surveillance" which is now supposed to replace the monopoly. "A national agency--the National Radio-Television Council--will issue the authorizations to be given. The administration will be a minority member of that national council. Publicity proceeds will be limited and regulated," said Mr Fillioud. Specifically, authorizations can be granted only to non-profit associations for local radio stations equipped with low-power transmitters (transmission radius limit 30 km), of course complying with specifications. Thus, advertising of local origin could be limited to 5 minutes per hour, on a noncumulative basis.

Proliferation

In the meantime, applicants are stepping up their activities and projects are pouring in. The clandestine and pirate operators, who now have come out into the open, are now facing a multitude of new competitors. This proliferation has been

facilitated by the method used in handling the necessary investments: Fr 40,000 (the cost of the antenna, the transmitter, and a frequency synthesizer) are enough to be able to broadcast nicely in a city such as Paris. One thing is certain: there will not be room for everybody, for a technical reason: the available band is not very wide. The FM frequencies reserved for the radio broadcasting network go from 88 to 100 MHz. An extension of the band up to 104 MHz has been planned for 1982. "Pending this opening, about a score of stations, at most, could broadcast in Paris without interfering with each other," said Mr Patrick Van Troeyen, 30, in charge of "Radio-Ivre," one of the principal free radio stations in Paris, broadcasting at night for the past 3 years on 88.8 MHz. Now, the capital already has at least half a score of pirate stations. In addition to "Radio-Ivre," we have "Oblique FM' (started last February by Claude Monet, 29, broadcasting on 91.4 MHz, starting at 2200), "Radio Ici et Maintenant," "Paris FM," "Radio Gilda" (started in March by Patrick Fillioud, the son of the socialist deputy), "Radio Graffiti," "Radio Theleme," etc.

"Occupation"

While we have lost count of all of the projects springing from independent operators, record companies, newspapers, political parties, or labor unions, LE MONDE took out a 34-percent share in "Radio Cite Future" which, concerned with all the legal formalities, is content with broadcasting uninterruptedly on 96 MHz a sound signal consisting of five notes (the theme of "Encounters of the Third Kind"). This is one way of "occupying" the frequency. Mr Jacques Chirac, who had already purchased one hour of radio time from "Radio-Ivre" on Friday evening prior to the first round of elections (for Fr 10,000), might even start his own radio station. The technical support facilities are being feverishly put in place by the dozens and teams of DJ's are clustering around the microphone and the mixing console. Each now awaits the policy decisions with apprehension.

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